

Remarks

The Office Action mailed June 15, 2005 has been carefully reviewed and the foregoing amendments have been made as a consequence thereof.

Claims 1-20 are now pending in this application. Claims 1-20 are rejected.

The rejection of Claims 1-20 under 35 U.S.C §112, first paragraph, is respectfully traversed.

The Office Action asserts at pages 2 and 3 that “Applicant fails to describe in the specification how and why one of ordinary skilled in the art would reproduce an Ethernet switch with the configured features that Applicant is claiming in his invention, and Applicant further neglects to indicate in the specification what use would implementing claimed features in an Ethernet switch...Applicant fails to provide the usage of the claimed invention, as well as, structure with regards to the claimed invention...To be specific, how does one make and use an Ethernet switch that includes, a configured stackable switch, transmission of at least one Gigabyte per second, extended vibration of at least 2g, shock vibration of at least 4g, supporting VLAN, QoS, RMON, SNMP, spanning tree and operating at wire speed.” Applicant respectfully traverses this assertion.

Applicants have amended Claims 1, 11, and 12. Claims 2-10 depend, directly or indirectly, from independent Claim 1 and Claims 13-20 depend, directly from independent Claim 12.

Moreover, Applicants respectfully submit that Claims 1-20 meet the requirements of Section 112, first paragraph. Specifically, Applicants respectfully submit that the specification, including the figure, would enable one skilled in the art to make and/or use the invention as described in the present patent application.

Applicants submit that the specification, including the figure, describes how to make and use an Ethernet switch that provides a transmission of at least one Gigabyte per second. For example, the specification in paragraphs 7 and 16 provides, “In an exemplary embodiment, switch 10 includes six ports 12 and two Gigabyte Ethernet ports 14. Gigabyte Ethernet ports 14 are configured to be one or more of a 1000Base-

X port, a 1000Base-T port, a 1000Base-SX port, a 1000Base-LX/LH port, and a 1000Base-ZX port... In use, switch 10 is connected to a plurality of user devices such as, but not limited to, a computer, a programmable logic controller (PLC), input-output (I/O) devices, other switches, and all other Ethernet enabled devices. As used herein "user device" refers to any and all Ethernet enabled devices including an internet backbone interface typically provided by a telephone company enabling access to the Internet, and all other Ethernet enabled devices not typically termed "user" devices." Accordingly, an illustration of how to make and use an Ethernet switch that has transmission of at least one Gigabyte per second includes configuring Gigabyte Ethernet ports to be one or more of a 1000Base-X port a 1000Base-T port, a 1000Base-SX port, a 1000Base-LX/LH port, and a 1000Base-ZX port, and connecting the switch to a plurality of user devices.

Applicants further submit that the specification, including the figure, describes how to make and use a stackable Ethernet switch. For example, the specification in paragraph 11 provides, "In one embodiment, switch 10 is also stackable with other switches 10 to aggregate bandwidth in both a cascade configuration and a star configuration. In either configuration, the stacked switches 10 together operate as a single switch and each switch 10 includes a switch connection port (not shown) and is configurable to be a command switch or a member switch in the switch stack. In alternative embodiments, switches 10 may and/or may not be configurable as one unit, but will act as one in all other aspects. For example, operation of multiple switches 10 will be as one, but, in one embodiment, each switch 10 is configured separately. The command switch serves as a single IP address management point and disburses all management instructions dictated by a network administrator. In other words, when a first switch 10 is connected to a second switch 10, the switches (first and second) cooperatively operate as one switch. In one embodiment, switch 10 does not include a switch connection port, and switches 10 are interconnected via Gigabyte Ethernet ports 14." Accordingly, an illustration of how to make and use a configured stackable Ethernet switch includes connecting a first Ethernet switch to a second Ethernet switch via Gigabyte Ethernet ports of the switches, configuring the first switch as a single IP address management point, commanding of the second switch by the first switch, and connecting the first switch to a plurality of user devices.

Applicants submit that the specification, including the figure, describes how to make and use an Ethernet switch that is operable under an extended vibration of at least 2g, a shock vibration of at least 4g, within a temperature range of at least between approximately 0 °C and approximately 60 °C, and within a non-condensing humidity range of at least between approximately 10% and approximately 95%. For example, the specification in paragraphs 9 and 16 provides, “Switch 10 is hardened in that switch 10 is configured to operate in harsh environments with respect to temperature, humidity, and vibration. Specifically, switch 10 remains operational in environments of temperatures between 0° Celsius (C) and 60° C, a non-condensing humidity range of between 10% and 95%, and an extended vibration level of 2g (gravity). In an exemplary embodiment, switch 10 also is configured to be operable after sustaining a 4g shock vibration. In one embodiment, switch 10 remains operational in environments of temperatures between -10° C and 60° C, a non-condensing humidity range of between 5% and 97%, and an extended vibration level of 3g. In another embodiment, switch 10 remains operational in environments of temperatures between -15° C and 75° C, a non-condensing humidity range of between 2% and 98%, and an extended vibration level of 3.5g...Switch 10 transfers data between the user devices and remains operational in harsh environments with temperatures between 0° C and 60° C, and non-condensing humidity ranges between 10% and 95%.” Accordingly, an illustration of how to make and use an Ethernet switch that is operable under an extended vibration of at least 2g, a shock vibration of at least 4g, within a temperature range of at least between approximately 0 °C and approximately 60 °C, and within a non-condensing humidity range of at least between approximately 10% and approximately 95% includes hardening the switch to be operable under an extended vibration of at least 2g, a shock vibration of at least 4g, within a temperature range of at least between approximately 0 °C and approximately 60 °C, and within a non-condensing humidity range of at least between approximately 10% and approximately 95%, and connecting the switch to a plurality of user devices.

Applicants submit that the specification, including the figure, describes how to make and use an Ethernet switch supporting a VLAN. For example, the specification in paragraph 10 provides, “Additionally, switch 10 can automatically configure Virtual LANs (VLANs) and trusted-extension settings for Internet Protocol (IP) telephones by overlaying a voice topology onto a data network and maintaining the

quality of voice traffic. Therefore, a network administrator can segment phones into separate logical networks even though the data and voice infrastructure is physically the same. A user plugs a phone into switch 10, and switch 10 provides the phone with the necessary VLAN information because switch 10 places the phones into their own VLANs without any end-user intervention. Additionally, devices other than phones can be placed in their own VLANs to isolate control and I/O traffic and devices on their own respective VLANs.” Accordingly, an illustration of how to make and use an Ethernet switch supporting a VLAN includes plugging a phone into the switch, and providing to the phone, by the switch, the necessary VLAN information.

Applicants submit that the specification, including the figure, describes how to make and use an Ethernet switch supporting QoS. For example, the specification in paragraphs 7, 8, 13, 14, and 15 provides, “Switch 10 provides a Port-based reclassification ability which allows users to reclassify IEEE 802.1p class-of-service (CoS) values on a per-port basis via a command-line interface (CLIs) enabling a fine granularity of control to implement local area network (LAN) edge quality of service (QoS). The Port-based reclassification also enables switch 10 to change the CoS settings of tagged packets on a per-port basis. For example, with untagged packets, switch 10 uses a default ingress port priority to classify the packets wherein a priority scheduling is applied between a plurality of queues including a low priority queue and a high priority queue. The priority scheduling ensures that the high priority queue is always serviced before scheduling the lower priority traffic. The priority scheduling enables a user to prioritize mission critical traffic, such as Voice over IP (VoIP) and Enterprise Resource Planning (ERP) applications over regular traffic, such as, for example, but not limited to, File Transfer Protocol (FTP) or low-priority Web surfing traffic... Switch 10 also includes embedded software enabling QoS features which allow a user to build networks with switch 10 that conform to both the Internet Engineering Task Force (IETF) Integrated Services (IntServ) model and/or the Differentiated Services (DiffServ) model. The embedded QoS features also provide value-added functionality such as network-based application recognition (NBAR) for classifying traffic on an application basis, a service assurance agent (SAA) for end-to-end QoS measurements, and a Resource Reservation Protocol (RSVP) signaling for admission control and reservation of resources. The QoS features provide a solution for controlling available bandwidth and managing it efficiently to meet application

demands. The QoS features include mechanisms such as, but not limited to, link fragmentation and interleaving (LFI), Compressed Real-Time Protocol (CRTP), Weighted Fair Queuing (WFQ), and Low-Latency Queuing (LLQ). The QoS features also support Class-Based Weighted Fair Queuing (CBWFQ), committed access rate (CAR), generic traffic shaping (GTS), and Weighted Random Early Detection (WRED). Switch 10 also supports QoS-enabled virtual private networks (VPNs), non-VPN services, Multiprotocol Label Switching (MPLS), QoS-to-ATM Class of Service (CoS), Frame Relay traffic shaping (FRTS), and Frame Relay Fragmentation (FRF). Switch 10 is configured to map RSVP reservations to an ATM permanent virtual circuit (PVC) and/or a switched virtual circuit (SVC) if desired.” Accordingly, an illustration of how to make and use an Ethernet switch supporting QoS includes prioritizing, within the switch, mission critical traffic and reclassifying IEEE 802.1p class-of-service values on a per-port basis via a command-line interface, and connecting the switch to a plurality of user devices.

Applicants submit that the specification, including the figure, describes how to make and use an Ethernet switch supporting RMON. For example, the specification in paragraphs 12 provides, “In an exemplary embodiment, switch 10 includes an Embedded Remote Monitoring (RMON) software agent that supports four RMON groups (History, Statistics, Alarms, and Events) for enhanced traffic management, monitoring, and analysis. In an alternative embodiment, switch 10 supports all nine RMON groups (Statistics, History, Alarm, Host, HostTopN, Matrix, Filters, Packet Capture, and Events). In other embodiments, switch 10 supports less than all nine RMON groups.” Accordingly, an illustration of how to make and use an Ethernet switch supporting RMON includes embedding, within the switch, an RMON software agent supporting a plurality of RMON groups, and connecting the switch to a plurality of user devices.

Applicants submit that the specification, including the figure, describes how to make and use an Ethernet switch supporting SNMP. For example, the specification in paragraphs 12 provides, “Switch 10 supports Simple Network Management Protocol (SNMP), and switch 10 includes a Telnet interface support that delivers comprehensive in-band management, and a CLI-based management console that provides detailed out-of-band management.” Accordingly, an illustration of how to

make and use an Ethernet switch supporting SNMP includes configuring the switch to support SNMP and connecting the switch to a plurality of user devices.

Applicants submit that the specification, including the figure, describes how to make and use an Ethernet switch supporting a spanning tree. For example, the specification in paragraphs 13 provides, “Switch 10 is configured to support IEEE 802.1D Spanning-Tree Protocol such that switch 10 provides for redundant backbone connections and loop-free networks which simplifies network configuration and improves fault tolerance.” Accordingly, an illustration of how to make and use an Ethernet switch supporting a spanning tree protocol includes configuring the switch to support IEEE 802.1D Spanning-Tree Protocol such that switch 10 provides for redundant backbone connections and loop-free networks, and connecting the switch to a plurality of user devices.

Applicants submit that the specification, including the figure, describes how to make and use an Ethernet switch operating at wire speed. For example, the specification in paragraphs 12 provides, “In an exemplary embodiment, switch's 10 operating software is embedded in hardware (e.g., an application specific integrated circuit, ASIC) and total bandwidth of a backplane (not shown) inside switch 10 is at least twice the sum of the bandwidth of all ports 12 and 14 such that switch 10 operates substantially at wire speed.” Accordingly, an illustration of how to make and use an Ethernet switch operating at wire speed includes changing total bandwidth of a backplane inside the switch to at least twice the sum of the bandwidth of all ports of the switch, and connecting the switch to a plurality of user devices.

Accordingly, Applicant respectfully submits that one skilled in the relevant art would understand how to make and use an Ethernet switch that is a configured stackable switch, provides a transmission of at least one Gigabyte per second, operates under an extended vibration of at least 2g, a shock vibration of at least 4g, supports VLAN, QoS, RMON, SNMP, spanning tree and operates at wire speed. Accordingly, Applicant respectfully requests that the rejection of Claims 1-20 under Section 112, first paragraph, be withdrawn.

For at least the reasons set forth above, Applicant respectfully requests that the rejection of Claims 1-20 under Section 112, first paragraph, be withdrawn.

Accordingly, Applicants respectfully request that the section 112 rejection to Claims 6-9 be withdrawn.

The rejection of Claims 1-20 under 35 U.S.C §112, second paragraph, is respectfully traversed. Applicants have amended Claims 1, 11, and 12. Claims 2-10 depend, directly or indirectly, from independent Claim 1 and Claims 13-20 depend, directly from independent Claim 12. Therefore, Applicants respectfully submit that Claims 1-20 particularly point out and distinctly claim the subject matter which the Applicants regard as their invention. Accordingly, Applicants respectfully request that the section 112 rejection to Claims 1-20 be withdrawn.

The rejection of Claims 1, 3, 4, 7, 12, 14, and 17 under 35 U.S.C. § 103(a) as being unpatentable over Compaq (*Quickspecs Compaq SW5425 Desktop Gigabit Ethernet Switch*, at http://h18002.www1.hp.com/products/quickspecs/10090_div/10090_div.HTML) in view of Arise Computer, available at <http://www.arisecomputer.com/singlebrd/Dx-4000.asp>, is respectfully traversed.

Compaq describes a Compaq SW5425 Desktop Gigabit Ethernet Switch (page 1). Compaq SW5425 Desktop Gigabit Ethernet Switch operates in an operating environment having a temperature range of 0 to 40 °C (page 4).

Arise Computer describes an industrial single board computer having a operating temperature of 0~60 °C and provided with a VGA (page 1).

Claim 1 recites an Ethernet switch for use in a non-office environment, the Ethernet switch comprising “a plurality of ports, said switch configured to be operable within a temperature range of at least between approximately 0° C and approximately 60° C, said switch further configured to be operable within a non-condensing humidity range of at least between approximately 10% and approximately 95%, said switch further configured to support at least one of a Virtual Local Area Network (VLAN), a Quality of Service (QoS), a Remote Monitoring (RMON), and a Spanning Tree.”

Neither Compaq nor Arise Computer, considered alone or in combination, describe or suggest an Ethernet switch as recited in Claim 1. Specifically, neither

Compaq nor Arise Computer, considered alone or in combination, describe or suggest an Ethernet switch configured to be operable within a temperature range of at least between approximately 0° C and approximately 60° C. Rather, Compaq describes a Compaq SW5425 Desktop Gigabit Ethernet Switch that operates in an operating environment having a temperature range of 0 to 40 °C. Arise Computer describes an industrial single board computer having a operating temperature of 0~60 °C and provided with a video graphics array (VGA). A description of an industrial single board computer and a VGA does not describe or suggest an Ethernet switch. Accordingly, neither Compaq nor Arise Computer, considered alone or in combination, describe or suggest an Ethernet switch configured to be operable within a temperature range recited in Claim 1. For the reasons set forth above, Claim 1 is submitted to be patentable over Raab et al. in view of Compaq and Arise Computer.

Claims 3, 4, and 7 depend from independent Claim 1. When the recitations of Claims 3, 4, and 7 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 3, 4, and 7 likewise are patentable over Compaq and Arise Computer.

Claim 12 recites an Ethernet network comprising “a first switch configured to be used in a non-office environment; and a plurality of user devices operationally coupled to said first switch such that said first switch transfers data from at least one of said devices to a different one of said devices, said first switch configured to: be operable within a temperature range of at least between approximately 0° C and approximately 60°C; be operable within a non-condensing humidity range of at least between approximately 10% and approximately 95%; and support at least one of a Virtual Local Area Network (VLAN), a Quality of Service (QoS), a Remote Monitoring (RMON), and a Spanning Tree.”

Neither Compaq nor Arise Computer, considered alone or in combination, describe or suggest an Ethernet network as recited in Claim 12. Specifically, neither Compaq nor Arise Computer, considered alone or in combination, describe or suggest an Ethernet network including a first switch configured to be operable within a temperature range of at least between approximately 0° C and approximately 60°C. Rather, Compaq describes a Compaq SW5425 Desktop Gigabit Ethernet Switch that operates in an operating environment having a temperature range of 0 to 40 °C. Arise

Computer describes an industrial single board computer having a operating temperature of 0~60 °C and provided with a video graphics array (VGA). A description of an industrial single board computer and a VGA does not describe or suggest an Ethernet switch. Accordingly, neither Compaq nor Arise Compaq, considered alone or in combination, describe or suggest an Ethernet network including a first switch configured to be operable within a temperature range recited in Claim 12. For the reasons set forth above, Claim 12 is submitted to be patentable over Compaq and Arise Computer.

Claims 14 and 17 depend from independent Claim 12. When the recitations of Claims 14 and 17 are considered in combination with the recitations of Claim 12, Applicants submit that dependent Claims 14 and 17 likewise are patentable over Compaq and Arise Computer.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 1, 3, 4, 7, 12, 14, and 17 be withdrawn.

The rejection of Claim 2 under 35 U.S.C. § 103(a) as being unpatentable over Raab et al. in view of Compaq in view of Arise Computer, and further in view of Haddock et al. (U.S. Patent 5,974,467) is respectfully traversed.

Compaq and Arise Computer are described above.

Haddock et al. describe a plurality of switches that are generally offered as part of either a pure stackable or pure chassis-based product line thereby forcing network managers to choose between stackable or chassis switching (column 1, lines 44-47). There are advantages to both approaches (column 1, line 47). For instance, stackable switches offer flexibility and low entry-cost, while chassis-based switches offer fault tolerance and high port-density (column 1, lines 47-50).

Claim 2 depends from independent Claim 1 which recites an Ethernet switch for use in a non-office environment, the Ethernet switch comprising “a plurality of ports, said switch configured to be operable within a temperature range of at least between approximately 0° C and approximately 60° C, said switch further configured to be operable within a non-condensing humidity range of at least between approximately 10% and approximately 95%, said switch further configured to support

at least one of a Virtual Local Area Network (VLAN), a Quality of Service (QoS), a Remote Monitoring (RMON), and a Spanning Tree.”

None of Compaq, Arise Computer, or Haddock et al., considered alone or in combination, describe or suggest an Ethernet switch as recited in Claim 1. Specifically, none of Compaq, Arise Computer, or Haddock et al., considered alone or in combination, describe or suggest an Ethernet switch configured to be operable within a temperature range of at least between approximately 0° C and approximately 60° C. Rather, Compaq describes a Compaq SW5425 Desktop Gigabit Ethernet Switch that operates in an operating environment having a temperature range of 0 to 40 °C. Arise Computer describes an industrial single board computer having a operating temperature of 0~60 °C and provided with a video graphics array (VGA). A description of an industrial single board computer and a VGA does not describe or suggest an Ethernet switch. Haddock et al. describe a plurality of switches that are generally offered as part of either a pure stackable or pure chassis-based product line thereby forcing network managers to choose between stackable or chassis switching. Accordingly, none of Compaq, Arise Computer, or Haddock et al., considered alone or in combination, describe or suggest an Ethernet switch configured to be operable within a temperature range recited in Claim 1. For the reasons set forth above, Claim 1 is submitted to be patentable over Compaq and Arise Computer, and further in view of Haddock et al.

When the recitations of Claim 2 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claim 2 likewise is patentable over Compaq and Arise Computer, and further in view of Haddock et al.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 2 be withdrawn.

Moreover, Applicants respectfully submit that the Section 103 rejections of Claims 1-4, 7, 12, 14, and 17 are not proper rejections. As is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combinations. None of Compaq, Arise Computer, or Haddock et al., considered alone or in combination, describe or suggest the claimed combinations.

Furthermore, in contrast to the assertion within the Office Action, Applicants respectfully submit that it would not be obvious to one skilled in the art to combine Compaq with Arise Computer or Haddock et al. because there is no motivation to combine the references suggested in the cited art itself.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicants' disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion or motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown.

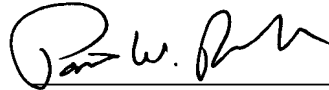
Furthermore, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the cited art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the art to deprecate the claimed invention. Further, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. The present Section 103 rejections are based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Specifically, Compaq teaches a Compaq SW5425 Desktop Gigabit Ethernet Switch that operates in an operating environment having a temperature range of 0 to 40 °C. Arise Computer teaches an industrial single board computer having a operating temperature of 0~60 °C and provided with a video graphics array (VGA). Haddock et al. teach a plurality of switches that are generally offered as part of either a pure stackable or pure chassis-based product line thereby forcing network managers to choose between stackable or chassis switching. Since there is no teaching nor suggestion in the cited art for the combinations, the Section 103 rejections appear to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present

invention. Of course, such combinations are impermissible, and for this reason alone, Applicants request that the Section 103 rejections of Claims 1-4, 7, 12, 14, and 17 be withdrawn.

For at least the reasons set forth above, Applicants respectfully request that the rejections of Claims 1-4, 7, 12, 14, and 17 under 35 U.S.C. 103(a) be withdrawn.

In view of the foregoing amendment and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Patrick W. Rasche", written over a horizontal line.

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